

GOLD CLUB HEAD

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 This invention relates to a golf club head, particularly to one upgraded in its combined strength of a body with an upper cap and possible to prevent disfiguration of the body, with its cost lessened.

2. Description of the Prior Art

10 A first known conventional golf club head shown in Fig. 1 includes a hollow body 10 and an upper cap 20 closed on the hollow body 10. The body 10 has a hollow interior and an opening 101 in an upper side, and a ferrule 102 provided projecting up at a rear side,
15 and a combining surface 103 formed around the circumferential edge of the opening 101. The upper cap 20 is shaped to match with the body 10, closed tightly on the opening 101. The body 10 and the upper cap 20 are combined together by coating glue 30 on the
20 combining surface 103 and the upper cap 20 placed around the combining surface 103 for the glue to dry out to adhere tightly with the body 10. And the club head has its outer surface polished to finish the first conventional golf club head.

25 However, in the first conventional golf club head, the adhered dimension of the upper cap 20 with

the body 10 is too small, the body 10 is prone to disfigure due to the counteraction of the ball against the head body 10 at the moment when hitting a ball, and then recovers its original shape. Long terms of
5 repetition of disfiguring and recovering may easily cause the upper cap 20 to fall off the body 10, troublesome to use.

Then there is a second known conventional golf club head a little improved, as shown in Fig. 2,
10 including a metal hollow head body 10 and an upper cap 20. The body 10 has an opening 101 in an upper wall and a ferrule 102 at the rear side. The opening 101 has an annular surface 103 around the opening edge. In order to upgrade the combined strength of the
15 body 10 with the upper cap 20, the body 10 is provided with an air hole 105 in a sidewall, and an air bag 40 is inserted in the hollow interior of the body 10 through the air hole 105. Then a carbon-fiber cloth 50 is also inserted in the hollow interior of the body 10, then the
20 annular surface 103 of the opening 101 is coated with glue 30, and the upper cap 20 is tightly closed in around the annular surface 103 to combine with the body 10. Further, Then the annular surface 103 is coated with glue 30, and the upper cap is forcefully
25 closed in around the annular surface 103 to be adhered together with the body 10. Meanwhile, air is inflated

in the air bag 40 to push upward the carbon-fiber cloth 50 until the carbon-fiber cloth 50 closely contacts with the upper cap 20 and the annular surface 103. After that, the air bag 40 is deflated and pulled out of the body 10 through the air hole 105, which is then sealed up, generally by a decorative trademark of the maker, finishing the second conventional golf club head.

After careful research about the second conventional golf club head, it was found that the second conventional golf club head has the combined strength a lot superior to the first conventional golf club head, but nevertheless, inserting and removing of the air bag 40 in and from the body 10 along with inflating and deflating processes raise up its cost for a great extent, and in addition, boring and sealing of the air hole 104 complicates the manufacturing process, making up further drawback. ,

SUMMARY OF THE INVENTION

This invention has been devised to offer a golf club head improved in the combined strength of the body with the upper cap to make the club head strong enough to endure shocks at the moment of striking a ball, with its cost reduced as well.

The feature of the invention is provision of a support plate positioned in the center portion of an

opening provided in an upper surface of the body of a golf club head. The support plate has two opposite end surfaces adhered with the inner edge of the opening, with one of the end surfaces located near a striking
5 face to prop up sidewise the striking face. The support plate has an intermediate curved portion located in the opening and flush with the top of the annular combining surface of the opening, with an upper cap placed on the opening and adhered with the
10 intermediate curved portion of the support plate. Then the golf club head has its combined strength reinforced largely to enable the striking face endure shocks at the moment of striking a ball, with its cost also lowered.

15 BRIEF DESCRIPTION OF DRAWINGS

This invention will be better understood by referring to the accompanying drawings, wherein:

Figure 1 is a cross-sectional view of a first conventional golf club head;

20 Figure 2 is a cross-sectional view of a second conventional golf club head;

Figure 3 is an exploded perspective view of a first embodiment of a golf club head in the present invention;

25 Figure 4 is an upper view of the first embodiment of a golf club head in the present

invention;

Figure 5 is a cross-sectional view of the line A - A in Fig. 4;

Figure 6 is an upper view of a second
5 embodiment of a golf club head in the present invention; and,

Figure 7 is an upper view of a third embodiment of a golf club head in the present invention.

DETAILED DESCRIPTION OF THE PREFERRED 10 EMBODIMENTS

A first embodiment of a golf club head in the present invention, as shown in Fig.3, includes a hollow body 1, an upper cap 2 and a support plate 3.

The hollow body 1 is made integral with a
15 hollow interior, having an opening 11 in an upper wall, and a ferrule 12 at a rear side for connecting a golf club. The opening 11 has an annular combining surface 13.

The upper cap 2 is shaped as an upper surface of
20 the body 1, closed in around the opening 11.

The support plate 3 is to be placed in across the opening 11, vertical to a striking surface 14, having a an intermediate curved surface 31 as wide as the opening 11, and two opposite ends provided with a
25 recessed surface 32 to fit with the inner edge of the opening 11 so as to prop up the striking surface 14

stably, as shown in Fig. 5.

Next, Figs. 4 and 5 show the assembled condition of the golf club head. In assembling, at the beginning, the two recessed surfaces 32 of the support plate 3 are coated with glue 4, and then the support plate 3 is placed in the body 1, located vertical to the striking surface 14 with the two recessed surfaces 32 adhered with the lower surface of the annular combining surface 13 and with the intermediate curved surface 31 located just in the opening 11 and flush with the top of the annular combining surface 13, as shown in Fig. 5. Further, the annular combining surface 13 of the body 1 and the curved surface 31 of the support plate 3 are coated with glue 4, and then the upper cap 2 is closed on the opening 11 and on the support plate 3, adhered with the annular combining surface 13 and the intermediate curved surface 31, finishing assembly of the golf club head in the invention.

The golf club head according to the invention has the following advantages, as can be seen from the aforesaid description.

1. The support plate 3 of a curved shape not only increases the adhered dimension of the upper cap 2 with the body 1, but also strengthens the combined strength of the two components.

2. It is prevented from disfiguration and from falling off of the upper cap 2 from the body 1 because the two recessed surfaces 32 of the support plate 3 support the inner edge of the opening 11 near the striking face 14 of the body 1, stably propping up sidewise the striking face 14 to upgrade shock enduring force at the moment of striking a ball.

3. Its manufacturing process can be simplified to lessen its cost, thanks to the direct adhering method, needless to use air inflating, an air bag and an air hole bored in the body 1 as needed in making the second conventional golf club head mentioned above.

Moreover, Fig. 6 shows a second embodiment of a golf club head having almost the same structure as the first one except the support plate 3 shaped half oval to fit in the left half portion of the opening 11 of the body 1. And Fig. 7 shows a third embodiment of a golf club head having almost the same structure as the first one except the support plate 3 shaped half oval to fit in the right half portion of the opening of the body 1. The main key point is that the support plate should be fixed in the opening 11 of the body 1, with one of the two recessed surfaces 32 propping up the striking face 14, and with the curved portion 31 of the support

plate 3 flush with the annular combining surface 13.
Then the golf club head never fails to be reinforced in
its combined strength.

While the preferred embodiments have been
5 described above, it will be recognized and understood
that various modifications may be made therein and
the appended claims are intended to cover all such
modifications that may all within the spirit and scope
of the invention.

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